

WHAT IS CLAIMED IS:

- 1                   1.       A computer based method for mining a plurality of experiment  
2   information for a pattern, said method comprising:  
3                   collecting information from experiments and chip designs;  
4                   selecting from said experiments and said chip designs ones to be mined;  
5                   defining at least one of a plurality of groupings for said experiments to be  
6   mined;  
7                   selecting based upon said at least one of a plurality of groupings,  
8   information about said plurality of experiments to be mined, forming a plurality of  
9   resulting information, said plurality of resulting information including at least a resulting  
10   gene set; and  
11                  formatting said plurality of resulting information for viewing by a user.
- 1                   2.       The method of claim 1 wherein experiments to be mined are  
2   selected based upon at least one of a plurality of experimental analyses.
- 1                   3.       The method of claim 1 wherein said at least one of a plurality of  
2   groupings is a sample type.
- 1                   4.       The method of claim 1 wherein said at least one of a plurality of  
2   groupings is a sample attribute.
- 1                   5.       The method of claim 1 wherein said plurality of groupings are  
2   sample attributes having a non-hierarchical arrangement.
- 1                   6.       The method of claim 1 further comprising adding experiments to  
2   said experiments to be mined.
- 1                   7       The method of claim 1 further comprising deleting experiments to  
2   said experiments to be mined.
- 1                   8       The method of claim 1 wherein said pattern is a gene pathway.
- 1                   9       The method of claim 1 wherein said pattern is a drug toxicity.

1                   10.    The method of claim 1 further comprising enabling a user to apply  
2   set theory operations on said resulting gene sets.

1                   11.    A computer based method for working with expression  
2   information, said method comprising:  
3                   collecting information about a plurality of results of a plurality of  
4   experiments;  
5                   gathering information about samples and information about said plurality  
6   of experiments;  
7                   adding at least one of a plurality of attributes to said information about  
8   said plurality of experiments;  
9                   transforming said plurality of results of experiments, to form a plurality of  
10   transformed information;  
11                  mining said plurality of transformed information; and  
12                  visualizing said plurality of transformed information.

1                   12.    The method of claim 11 wherein said information about said  
2   plurality of experiments comprises at least one of a plurality of experimental analyses.

1                   13.    The method of claim 12 wherein said at least one of a plurality of  
2   experimental analyses comprises one or more experimental analyses.

1                   14.    The method of claim 11 wherein said transforming comprises  
2   normalizing and said transformed information comprises normalized information.

1                   15.    The method of claim 11 further comprising recording one or more  
2   results of said mining said plurality of transformed information.

1                   16.    The method of claim 11 further comprising citing theories about  
2   said transformed information.

1                   17.    A computer program product for mining a plurality of experiment  
2   information for a pattern, said computer program product comprising:  
3                   code for collecting information from experiments and chip designs;  
4                   code for selecting a subset of said experiments and said chip designs, said  
5   subset being a plurality of experiments to be mined;

6 code for defining at least one of a plurality of groupings for said  
7 experiments to be mined;  
8 code for selecting based upon said at least one of a plurality of groupings,  
9 information about said plurality of experiments to be mined, to form a plurality of  
10 resulting information, said plurality of resulting information including at least a resulting  
11 gene set;  
12 code for formatting said plurality of resulting information for viewing by a  
13 user; and  
14 a computer readable storage medium for containing the codes.

1 18. The program product of claim 17 wherein said at least one of a  
2 plurality of groupings is a sample type.

1 19. The computer program product of claim 17 wherein said at least  
2 one of a plurality of groupings is a sample attribute.

1 20. The computer program product of claim 17 wherein said plurality  
2 of groupings are sample attributes having a non-hierarchical arrangement.

1 21. The computer program product of claim 17 further comprising  
2 code for adding experiments to said experiments to be mined.

1 22. The computer program product of claim 17 further comprising  
2 code for deleting experiments to said experiments to be mined.

1 23. The computer program product of claim 17 wherein said pattern is  
2 a gene pathway.

1 24. The computer program product of claim 17 wherein said pattern is  
2 a drug toxicity.

1 25. The computer program product of claim 17 further comprising  
2 code for enabling a user to apply set theory operations on said resulting gene sets.

1 26. A computer program product for working with expression  
2 information, said computer program product comprising:  
3 code for collecting information about a plurality of results of a plurality of

4 experiments;  
5 code for gathering information about samples and information about said  
6 plurality of experiments;  
7 code for adding at least one of a plurality of attributes to said information  
8 about said plurality of experiments;  
9 code for transforming said plurality of results of experiments, to form a  
10 plurality of transformed information;  
11 code for mining said plurality of transformed information;  
12 code for visualizing said plurality of transformed information; and  
13 a computer readable storage medium for storing the codes.

1 27. The computer program product of claim 26 further comprising  
2 code for citing theories about said transformed information.

1 28. The computer program product of claim 26 wherein said code for  
2 transforming further comprises code for normalizing and said transformed information  
3 further comprises normalized information.

1 29. A system for managing expression information comprising:  
2 a database;  
3 a computer memory; and  
4 a processor, said processor operatively disposed to:  
5 collect information about a plurality of results of a plurality of  
6 experiments;  
7 gather information about samples and information about said plurality of  
8 experiments;  
9 add at least one of a plurality of attributes to said information about said  
10 plurality of experiments;  
11 transform said plurality of results of experiments, to form a plurality of  
12 transformed information;  
13 mine said plurality of transformed information; and  
14 visualize said plurality of transformed information.